

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Modernizing Electricity)	
)	Docket No. AD21-10-000
Market Design)	
)	

COMMENTS OF THE ELECTRIC POWER SUPPLY ASSOCIATION

The Electric Power Supply Association (“EPSA”)¹ respectfully submits these comments in response to the Notice Inviting Post-Conference Comments (“Notice”)² issued on April 5, 2021, by the Federal Energy Regulatory Commission (“FERC” or “Commission”) in the above-referenced docket. The Notice invites comments on the topics discussed at the March 23, 2021 Technical Conference on *Resource Adequacy in the Evolving Electricity Sector*³ as well as questions outlined in the Notice on PJM’s capacity market and its expanded minimum offer price rule (“Expanded MOPR”).

I. INTRODUCTION

EPSA appreciates the Commission’s efforts in this proceeding to initiate a comprehensive discussion about how competitive electricity markets can continue to serve the interests of consumers reliably and cost effectively in light of a changing resource mix due to technological innovations, increasing cost competitiveness, and a drive to lower emissions. Importantly, well-functioning, transparent, competitive energy

¹ EPSA is the national trade association representing competitive power suppliers in the U.S. EPSA members provide reliable and competitively priced electricity from environmentally responsible facilities using a diverse mix of fuels and technologies. EPSA seeks to bring the benefits of competition to all power customers. This pleading represents the position of EPSA as an organization, but not necessarily the views of any particular member with respect to any issue.

² Notice Inviting Post-Technical Conference Comments, *Modernizing Electricity Market Design*, Docket AD21-10-000, (issued April 5, 2021) (“Notice” or “Notice Inviting Comments”).

³ Supplemental Notice of Technical Conference on Resource Adequacy in the Evolving Electricity Sector, *Modernizing Electricity Market Design*, Docket AD21-10-000, (Issued Mar 16, 2021) (“Second Supplemental Notice”).

markets are the most effective way to encourage sustainable environmental progress without harming reliability or burdening customers with excessive costs.

Nondiscriminatory markets can be designed to allow all resources to compete to supply power and reduce carbon or other harmful emissions, e.g., facilitating implementation of an economy-wide price on carbon or a well-designed clean electricity standard. However, we are not there yet. Therefore, the Commission is focused on exploring the role of centralized capacity markets in an environment where state policies increasingly designate certain resources pursuant to clean energy goals and mandates, creating significant tension with the regional wholesale market constructs and requiring expansion of offer-floor mitigation, such as the Minimum Offer Price Rules (“MOPRs”) employed in the PJM Interconnection, LLC., (“PJM”), New York Independent System Operator, Inc. (“NYISO”), and ISO New England Inc. (“ISO-NE”) capacity markets..

Fundamentally, the competitive market structure based on an energy market, capacity market, and ancillary services market operated by the ISO/RTO continues to be the optimal market design to ensure that consumers receive reliable service at just and reasonable prices as the grid continues to evolve. While this basic structure provides a solid foundation, there are enhancements and reforms that may be made to improve efficiency, improve the interaction across markets, and ensure that all resources capable and available to supply power and reliability services are incented to do so. In fact, it is the evolution of the resource mix that undergirds the importance of this competitive market design. As the penetration of low and zero marginal cost renewable resources continues to increase, energy market clearing prices will be lowered in response while the entry and retention of resources supported by out-of-

market subsidies will also suppress prices in the capacity market. This results in a double hit to revenues for those resources needed for reliability,⁴ an unsustainable scenario over the medium- and long-term which cannot be resolved by even extraordinary changes to ancillary services markets and products.

Certainly, there are enhancements that may address these concerns in both the short- and long-run. EPSA and its members are active in regional proceedings assessing these market design and revision proposals in all three of the eastern ISOs/RTOs.⁵ As noted by the CEOs of each eastern organized market at the March 23 Conference, these conversations are necessary and ongoing to address the interplay of state policies in a particular region with the operation of that ISO or RTO. Importantly, the FERC-jurisdictional ISO/RTO is the entity responsible for ensuring a reliable region-wide system. That obligation does not rest with the patchwork of state authorities or entities who are focused on their own state goals and resource adequacy within state borders. Therefore, the Commission should allow the ongoing stakeholder efforts to

⁴ See e.g., Energy Futures Initiative and Energy and Environmental Economics (“E3”), *Net Zero New England: Ensuring Electric Reliability in a Low-Carbon Future*, (November 2020), see generally, and Chapter 4, p. 48: “Taken together, a key finding of this study is that both retaining existing and building new natural gas capacity is consistent with deep decarbonization GHG targets as long as it is coupled with significant renewable resource additions, which provide the preponderance of energy generation”;

Energy and Environmental Economics (“E3”), *Least Cost Carbon Reduction Policies in PJM*, (October 28, 2020), <https://www.ethree.com/least-cost-carbon-reduction-in-pjm/>, see generally, including Key Finding #5a, p. 13;

Energy and Environmental Economics, *Achieving Carbon Neutrality in California: PATHWAYS Scenarios Developed for the California Air Resources Board*, (Draft August 2020), p. 53.

⁵ *PJM Capacity Market Workshops*, convened by the Market Implementation Committee, Four workshops held February – March 2021;

PJM Critical Issue Fast Path Process: Phase 1 - MOPR, convened by PJM Board of Managers, Letter to PJM Stakeholders, April 6, 2021;

State of New York Public Service Commission, *Proceeding on Motion of the Commission to Consider Resource Adequacy Matters*, Case 19-E-0530;

New England States Energy Vision, States convened technical forums on wholesale market design on January 13, 2021 and January 25, 2021;

ISO New England, *New England's Future Grid Initiative Key Project*; Work on this high-priority initiative is taking place within the stakeholder process throughout 2020 and 2021.

continue to establish market revisions which ensure each market operates reliably for the region it serves.

We urge the Commission to remain committed to capacity markets as the cost-effective, market-based tool to achieve resource adequacy and reliability across a multi-state, regional footprint. In a joint statement outlining *Foundational Market Objectives for a Future Reliable Grid*, the three Eastern ISOs/RTOs – PJM, NYISO, and ISO-NE – stated that they “remain committed to capacity markets.”⁶ There are, and will always be, tweaks to capacity market design to ensure those markets deliver a reliable power supply at the lowest cost. However, there are few, if any, options that offer greater efficiency *and* political feasibility for a multi-state region. Capacity is not an ancillary service; it is a unique and necessary product integrated with the energy and ancillary services markets which together maintain regional resource adequacy and reliability.

Additionally, while concerns regarding an Expanded MOPR in PJM merit consideration and may lead to reforms, it is critical that ISOs/RTOs retain mitigation tools to address price suppression – just as there are tools to prevent the artificial inflation of prices – through the exercise of market power, and to ensure that markets do not deprive sellers of their statutory and constitutional rights to an “opportunity to recover [their] costs.”⁷ The Commission’s statutory and constitutional *obligations* do not change based on changing circumstances such as an evolving resource mix, an expansion of state programs which support preferred resources outside of the market, or the pursuit

⁶ Statement of PJM, Technical Conference on Resource Adequacy in the Evolving Electricity Sector, Attachment, “Foundational Market Objectives for A Reliable Grid,” (March 23, 2021), *available here* <https://pjm.com/-/media/committees-groups/committees/mic/2021/20210326-workshop-4/20210326-pjm-resource-adequacy-ferc-tech-conf-statement.ashx> (“Joint RTO Statement”), p. 1

⁷ *Bridgeport Energy, LLC*, 113 FERC ¶ 61,311 at P 29 (2005) (emphasis in original), *reh’g denied*, 114 FERC ¶ 61,265 (2006). *See also, e.g., FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944) (“*Hope*”).

by states to address certain market externalities which have the effect of depressing capacity market prices – price signals which the majority of resources require for investment and operational certainty. Before replacing or eliminating a MOPR, some alternative mechanism must be devised and implemented to ensure that the affected capacity market performs its intended function of ensuring reliability while maintaining the “balancing of the investor and consumer interests” that is required under the Federal Power Act and the U.S. Constitution.⁸ Further, concerns about MOPR should not be allowed to obscure the substantial benefits of the centralized capacity construct itself, and remedies should be targeted at aspects of the MOPR deemed problematic, rather than the overall capacity market structure. As explained below, centralized capacity markets send sustainable signals for entry and exit which meet future goals while maintaining reliability – priority number one for system operators to serve customers. We cannot lose sight of that primary objective in pursuit of an evolving generating fleet.

Finally, it is imperative that while these MOPR discussions occur, there is no further delay in the auction cycles. EPSA, PJM, and other market participants have previously detailed the critical nature of resuming and maintaining a timely BRA process.

II. COMMENTS

A. Importance of Centralized Capacity Markets – Market Fundamentals

In the first question, the Commission asks whether the purpose and goals of the capacity market should evolve in response to changed circumstances regarding the nature and scope of state actions to support specific resource types across the PJM

⁸ *Hope Natural Gas Co.*, 320 U.S. at 603.

footprint.⁹ While elements of the capacity markets have evolved, and will continue to evolve, to meet the changing needs of the applicable regional footprint, the fundamental purpose and goals of these markets remain, and should remain intact. As stated by ISO-NE's CEO, the purpose and goal of the capacity market is to cost-effectively meet regional reliability objectives by ensuring that there are adequate numbers of resources able to perform as expected.¹⁰ The capacity market is the vehicle that provides necessary revenue to those resources that are needed to operate rarely during extreme weather events and generation contingencies. Notably, in a joint statement outlining *Foundational Market Objectives for a Future Reliable Grid*, the three Eastern ISOs/RTOs – PJM, NYISO, and ISO-NE – stated that they “remain committed to capacity markets, and those markets, in combination with robust energy and ancillary services markets, provide significantly less volatile investment price signals than an Energy and Ancillary Services-only market.”¹¹

In multi-state ISOs/RTOs, where some or all participating states have restructured and therefore no longer utilize integrated resource planning under the cost-of-service paradigm, limited alternatives exist to ensure regional resource adequacy and reliability at least cost. A favorite among academics and market design experts has been an “energy-only” regime, like that employed by the Electric Reliability Council of Texas (“ERCOT”), that relies solely on energy and ancillary services markets. Such an approach would appear to be infeasible for regions like the Northeast, particularly for multi-state markets like those administered by PJM and ISO-NE. This is why Eastern

⁹ Notice Inviting Comments, p. 2.

¹⁰ Pre-Conference Comments of ISO New England, Inc., Technical Conference on Resource Adequacy in the Evolving Electricity Sector, p.1.

¹¹ Joint RTO Statement, p. 1.

ISO/RTO markets have adopted capacity markets to ensure regional resource adequacy in lieu of less efficient or politically infeasible options. As noted by MIT's Paul Joskow,

The creation of capacity markets recognizes that wholesale energy spot prices are capped to mitigate market power, that [Value of Lost Load] is not directly reflected on the demand side in organized markets, and that RTO/ISOs have retained target reserve margins for reliability from the pre-liberalization era which determine when system operators begin to take emergency actions to ensure that demand does not exceed capacity constraints requiring actions like voltage reductions and rolling blackouts.¹²

The principal purpose of a forward capacity market is to supplement short-term energy and ancillary services market price signals with a long-term price signal to support and attract sufficient investment needed to meet resource adequacy requirements based on the one day in ten-year standard that ensures long-term grid reliability. As explained by Potomac Economics' David Patton,

Energy and operating reserve markets will typically not provide enough revenue to keep this quantity of generation in service, so capacity markets were developed to provide economic signals that would supplement the RTO's energy and ancillary services markets to inform long-term capacity decisions, including investment, retirement and maintenance of resources. The revenue produced by the capacity markets provide the "missing money" necessary to satisfy the RTOs' capacity requirements.¹³

Energy and ancillary service market revenues outside of ERCOT are, by design, inadequate to provide the revenues necessary to maintain and incent generation needed for resource adequacy and reliability. Put differently, capacity is not an ancillary service; it is a unique and necessary product integrated with the energy and ancillary

¹² "Challenges for Wholesale Electricity Markets with Intermittent Renewable Generation at Scale: The U.S. Experience," Paul L. Joskow, MIT Center for Energy and Environmental Policy Research, January 2019, p. 23.

¹³ "Why Do Capacity Markets Exist?" By David Patton, Potomac Economics, October 4, 2017.

services markets which together maintain regional resource adequacy and reliability. In pre-conference written comments, ISO-NE CEO Gordon van Welie observed that energy and ancillary services markets in New England would have to be designed based on a Value of Lost Load of approximately \$180,000/MWh—or 20 times higher than the \$9,000/MWh energy price limit in ERCOT—to achieve the required level of resource adequacy.¹⁴ So while the capacity market will undoubtedly undergo market design enhancements, its original goal and purpose has not changed.

The capacity market becomes more, not less, important as more intermittent resources like solar and wind resources are integrated into the system. Due to their zero marginal costs, these resources tend to drive energy prices toward zero. As the energy price decreases, capacity market revenues—for both conventional and intermittent resources—become even more important in maintaining a reliable system. Robert Stoddard explains,

Current state policy directions, however, suggest an *increasing* role for capacity markets. Today’s bid-based energy and ancillary services markets are predicated on an upward-sloping supply stack, with the price in most hours set by a fossil-fueled resource with a non-zero marginal cost. In a future where the generation fleet is more heavily weighted towards nuclear, renewables, and storage, the energy component of LMPs may be zero in the majority of hours, with demand bids often times being the only remaining price sensitive resources on the system. In such a future, the Energy & Ancillary Services (“EAS”) Offsets may be very low and capacity market revenues may be more important than ever.¹⁵

Going forward, wholesale electricity markets, including capacity markets, should be a facilitator of decarbonization goals, not an inhibitor to them. Today’s three market

¹⁴ Pre-Conference Comments of ISO New England, Inc., p. 2.

¹⁵ *Request for Leave to Answer and Answer of Calpine Corporation and LS Power, LP*, Affidavit of Robert B. Stoddard at P 14, PJM Interconnection, LLC, Docket Nos. ER19-1486, et al. (June 24, 2019).

structure—energy, capacity, and ancillary services—with a few tweaks to boost efficiency, along with a price signal for clean energy, provide a solid transition to a deeply decarbonized grid. As shown in past research, a regional approach to decarbonization and clean energy goals can dramatically lower costs and increase efficiency relative to a balkanized state-by-state approach.¹⁶ In addition to integrating the low and zero carbon resources necessary to meet aggressive decarbonization goals, numerous studies conclude the necessity for regional wholesale electricity markets to also procure sufficient firm and dispatchable resources needed to reliably operate a system with significant levels of intermittent penetration.¹⁷

B. Enhancements to Improve Centralized Capacity Markets

To reiterate, the fundamental competitive ISO/RTO structure of energy, ancillary services, and capacity markets has been and will continue to be the optimal design to allow grid operators to operate the grid reliably. These markets may each require further enhancements or revisions in light of a transitioning grid; however, maintaining the fundamental construct will be important to retain the many benefits provided to consumers, including record low prices, spurred innovation, and continued acceleration of emissions reductions, all while allowing consumers to avoid the risks associated with generation supply investments.¹⁸ This was underscored in the joint statement from the ISOs/RTOs in which they emphasized the imperative to harmonize the competitive wholesale markets with state public policies while continuing to ensure grid reliability.¹⁹

¹⁶ *Least Cost Carbon Reduction Policies in PJM*, E3.

¹⁷ See footnote 4 above.

¹⁸ See EPSA Guiding Principles for Capacity Markets, March 2021, *available here*: https://epsa.org/wp-content/uploads/2021/03/PJM-Stakeholder-Comments_EPSA-Capacity-Market-Principles_03.16.21.pdf.

¹⁹ See Joint RTO Statement.

In considering a path forward, the joint ISOs/RTOs remain committed to capacity markets yet offer five foundational market objectives to serve as guideposts for any competitive wholesale market transition: (1) new services to ensure continued reliability; (2) continued efficient integration of demand-side resources into competitive wholesale markets; (3) a focus on sound pricing in the energy market; (4) accurate assessment of resource capacity contributions to resource adequacy; and, (5) capacity markets calibrated to induce reliable new entry and efficient exit. EPSC generally agrees with the foundational objectives outlined by the joint ISOs/RTOs and has consistently urged a comprehensive and holistic approach to evaluate any necessary reforms across the markets, given the inter-related nature and importance of each to the overall functioning of the competitive wholesale markets.

To the extent that some stakeholders have specific concerns regarding continued refinement of the capacity market rules, the PJM Board has acknowledged that our industry continues to evolve rapidly and, accordingly, the capacity market should be part of this evolution. In a letter to stakeholders following the recent Capacity Market Workshops, the PJM Board emphasized, “While [the capacity market] has served its originally stated purpose and achieved sound results, it is now timely to consider whether certain elements of it need to change to continue to meet our collective future needs.”²⁰

²⁰ Letter from PJM Board to PJM Stakeholders Regarding Capacity Market MOPR and Initiation of the CIPF Process (April 6, 2021), *available here*: <https://pjm.com/-/media/committees-groups/committees/mic/2021/20210407-cap-market/20210406-board-letter-regarding-capacity-market-minimum-offer-price-rule-and-initiation-of-the-critical-issue-fast-path-process.ashx>. (“While we are focused on a MOPR resolution right now, we urge stakeholders to address the remaining capacity market topics once the CIPF MOPR process has concluded. It is imperative that these items are devoted the appropriate level of attention and that necessary reforms are made to ensure that the capacity market continues to function appropriately to drive reliability in a cost-effective manner.”)

Furthermore, the fact that the Commission is often asked to revisit particular capacity market rules (or any of the market rules for that matter) is not evidence of some sort of fundamental design or structural flaw. Rather, it is a reflection of the need to adapt the market rules to changed circumstances. It also reflects the Commission's commendable commitment to ongoing oversight of the markets.²¹ EPSA appreciates that, at times, the complexity and controversy around capacity market rules may induce a certain degree of capacity market fatigue and prompt questions about whether there is some better approach. But there is no evidence to suggest that the regulatory grass will be any greener on the other side of the fence, as any market design is going to present its own challenges.²² For example, recent events in ERCOT provide but a small taste of the sort of complexity and controversy that would be associated with a move to an energy-only market, and replacing any of the existing capacity markets with such a scheme would be exceedingly risky and would result in extreme price volatility that was rejected in the eastern ISOs/RTOs many years ago.

As Dr. Paul Sotkiewicz observes, "the constant market rule changes lamented [] are likely to remain a fact of life whether they are in the capacity market or in the energy market."²³ Indeed, PJM's energy and ancillary services markets "have always been

²¹ See, e.g., *Grid Reliability & Resilience Pricing & Grid Resilience in Reg'l Transmission Orgs. & Indep. Sys. Operators*, 162 FERC ¶ 61,012 at P 10 (2018) ("As part of its ongoing oversight of wholesale electric markets, the Commission continues to evaluate its current rules and has issued several orders to ensure that our rates in our markets remain just and reasonable and not unduly discriminatory or preferential.")

²² For instance, even supporters of energy-only markets acknowledge that the scarcity pricing necessary to preserve reliability under such an approach may present political challenges. See *ISO New England Inc.*, 158 FERC ¶ 61,138 at 61,895 (2017) (Bay, Comm'r, concurring), *aff'd sub nom. NextEra Energy Res., LLC v. FERC*, 898 F.3d 14 (2018).

²³ See Reply Brief of the Electric Power Supply Association, Calpine Corporation v. PJM Interconnection, LLC, et al., Docket Nos. EL16-49-000, et al., Attachment B, Affidavit of Paul M. Sotkiewicz, Ph.D. at P 7 (filed November 6, 2018) ("Sotkiewicz Reply Affidavit"), available here <https://epsa.org/wp-content/uploads/2020/06/FINAL-EPSA-reply-MOPR-brief.pdf>.

undergoing constant changes to their design, including dramatic changes. . . .”²⁴ Finally, in response to arguments that the capacity market is an “administrative construct,” Dr. Sotkiewicz outlines that,

[T]he capacity market is indeed a market by any valid economic definition and explains that all real-world markets, including wholesale electricity markets, have rules and administrative features that are designed to address the reality that they do not exist in a sanitized, textbook environment of perfect competition. Absent such rules and administrative procedures, markets as we know them could not exist and would not perform as intended.²⁵

The bottom line is that economic regulation is, and will remain, hard work, and it is simply unrealistic to imagine that there is an ideal electric market design that will make all the complexity and controversy vanish.

As the discussion moves forward to consider MOPR reforms, it is important to recognize that capacity markets are not and should not be barriers to renewable integration but rather mechanisms to allow all resources to compete based on their contribution to the reliability target regardless of how it is measured. PJM has recently filed its Effective Load Carrying Capability (“ELCC”) construct for determining the relative amount of capacity that variable, limited duration, and combination resources may offer in PJM. This will be an important methodology to reflect the transition to a clean energy grid, and the capacity value and contribution of all resources very likely needs to be refined.

Additionally, services to ensure reliability need to be better defined along with potential reforms to ancillary services markets or products, or developing other revenue

²⁴ See Sotkiewicz Reply Affidavit, P 39.

²⁵ See Sotkiewicz Reply Affidavit, P 4.

streams. And while the markets are interrelated, none can replace the other given the inherent differences between the capacity market (ensuring capacity to meet peak demand) and ancillary services market (maintaining system balance and stability; supporting reliable operations). Further, the relative total revenue from the ancillary services market comprises a very small percentage for suppliers.²⁶ As the supply mix continues to evolve, the levels of reliability attributes and ancillary services required will also change. Further, renewable resources interconnecting into PJM in the future may not be capable of providing the same ancillary services and reliability attributes as the resources they are replacing.²⁷ To ensure reliability in the grid of the future, certain ancillary services and reliability attributes may need explicit modeling, with set requirements, to keep an adequate aggregate level on the system. PJM has indicated it may be valuable to explore where and how market-based mechanisms can be used to send appropriate price signals for these services. This includes enhancements to operating reserves, pricing operator actions, compensating for ramping or other flexibility products, and better assessment of demand-side contributions. However, the notion that these new or separately compensated services will fill in the gap if the centralized capacity market is eliminated or extensively narrowed is to assume a very unlikely if not impossible turn of events. Even if these services are called on more often

²⁶ In 2018, for example, ancillary services revenues represented approximately 1-2% of total revenue per year for generators. This has been the case even as the designation of “ancillary services” utilized and compensated varies to some degree from market to market. ISO New England, for instance, included its winter reliability program payments in its ancillary services category, which remained fairly steady at about 1% of total price in that market for the past several years, including 2018.

See e.g., PJM IMM State of the Market Report 2018, p. 16, Volume 1. [Total price per MWh by category – Ancillary Services: 1.4% in 2017, 1.3% in 2018]; ISO New England IMM State of the Market Report 2018, p. 5 [1% of total cost, which includes winter reliability program payments]; ISO New England, *2018 Annual Markets Report*, (May 23, 2019), p. 5.

²⁷ Reliability in PJM: Today and Tomorrow, March 11, 2021, pp. 11-13, <https://www.pjm.com/-/media/library/reports-notice/special-reports/2021/20210311-reliability-in-pjm-today-and-tomorrow.ashx>.

by the system operator – noting that they are paid when they produce or provide service to the system – the payment delta needed to retain the necessary resources which can offer these attributes will be nearly exponential as compared to the current market design.

If certain resource preferences are going to be accommodated, reliability must be maintained regionwide by the ISO/RTO. EPSA supports the important efforts underway in various regions with stakeholders to address their own markets – across all the Eastern ISOs/RTOs – and the interplay of state policies with the operation of the wholesale market. There are specific stakeholder proceedings underway in the different markets, and the Commission should allow for those stakeholder efforts to move forward and develop market revisions as needed. However, at the end of the day, it is the RTO’s responsibility to ensure reliability, and that cannot be overlooked, impeded, or dispersed across a patchwork of state entities that do not have responsibility beyond their own borders. As PJM’s CEO Manu Asthana has underscored, reliability is “job one” for PJM.²⁸ In discussing the capacity market review underway he stated,

PJM believes that our markets should be designed to accommodate state policies related to the generation resource mix, while also ensuring that we have the products (and adequate compensation to providers) in place, in a timely manner, to meet the reliability needs of the system going forward.²⁹

Within the scope of the PJM capacity market reform effort getting underway, it should be noted, there are several proposals to establish a separate clean energy

²⁸ Testimony of Manu Asthana, CEO and President, PJM Interconnection, LLC, Senate Committee on Energy and Natural Resources, March 11, 2021, pp. 2-3, <https://www.pjm.com/-/media/library/reports-notices/testimony/2021/20210311-testimony-of-manu-asthana-to-the-us-senate-committee-on-energy-and-natural-resources.ashx>.

²⁹ *Id.*

market or product (for example, an Integrated Clean Capacity Market, “ICCM,”³⁰ or Forward Clean Energy Market, “FCEM”³¹). Such a market or product may offer a viable solution *if* it will allow the centralized capacity construct to function as intended, while accommodating state resource preferences within the broader competitive wholesale market.

With specific respect to the Fixed Resource Requirement (FRR), while this option remains available, it must remain a mechanism that offers capacity market exit *without impacting* the regional capacity market for all other states and consumers. The FRR alternative was created for a very specific purpose when RPM was implemented and has been utilized rarely.³² The intent is to contain the exit of one utility – concerns remain over how FRR applies broadly to a state – and it is critical for reliability that the existing tariff protections remain stringent to protect all market participants and consumers. For example, a state or utility should not be allowed to “toggle” in and out of the market.

Further, while EPSA recognizes that states have environmental policy goals and societal initiatives they wish to pursue, EPSA firmly believes these goals can best be achieved via a regional, market-based mechanism with appropriate market mitigation

³⁰ The Brattle Group, developed for the NJ BPU, ICCM Presentation, PJM Capacity Market Workshop Session 3, March 12, 2021, <https://www.pjm.com/-/media/committees-groups/committees/mic/2021/20210312-workshop-3/20210312-item-02f-brattle-iccm.ashx>.

³¹ NRG Energy, FCEM presentation, PJM Capacity Market Workshop Session 3, March 12, 2021, <https://www.pjm.com/-/media/committees-groups/committees/mic/2021/20210312-workshop-3/20210312-item-02i-nrg-energy-forward-clean-energy-market.ashx>.

³² Statement of F. Stuart Bresler III on behalf of PJM Interconnection, L.L.C., Illinois House of Representatives, Public Utilities Committee (February 21, 2020), p. 4. *Available here* <https://www.pjm.com/-/media/library/reports-notices/testimony/20200221-pjm-bresler-statement-to-the-il-house-public-utilities-committee.ashx> (“Bresler Statement”).

measures in place.³³ The innovation and resource diversity needed for a cleaner, reliable system can only come through continued participation in regional competitive markets. However, experience has shown that states that opt to “go it alone” in an effort to meet environmental goals will likely fail to achieve their goals and raise costs to consumers.³⁴ This continues to be the conclusion for states that have considered exiting the PJM capacity market over the past few years.³⁵

C. Providing Investment Signals to Independent Suppliers

The Commission’s Notice asks whether “there is a concern that merchant resources may fail to receive financing due to state supported resource entry in PJM” and whether “PJM’s capacity market should address this concern?” The answer to both questions is “yes.” Below-cost offers from state-supported resources will inevitably impact financing of otherwise economic merchant resources, and, if PJM’s centralized forward capacity market is going to perform its intended function, PJM’s capacity market must address this concern. It is the capacity market price signal which supports

³³ See generally, Comments of the Electric Power Supply Association, State of New Jersey Board of Public Utilities, *Investigation of Resource Adequacy Alternatives*, Docket No. EO20030203 (filed May 20, 2020) available here https://epsa.org/wp-content/uploads/2020/05/EP_SA_NJ-BPU-RA-Comments.pdf.

³⁴ In August 2019 the Illinois Power Agency reported that Illinois is only at 7% renewables and is currently projected to peak at around 10% through 2036—well short of its 25% RPS goal. Illinois Power Agency, Long Term Renewable Resources Procurement Plan, (August 15, 2020), p. 68. Available at: <https://www2.illinois.gov/sites/ipa/Documents/Draft%20Revised%20Plan%20%20Summer%202019/Draft%20Revised%20LTRRPP%20%288-15-19%29.pdf>.

³⁵ See e.g., the PJM IMM’s analysis of FRR Impacts for several states in the PJM region: Monitoring Analytics, Potential Impacts of the Creation of Maryland FRRs, (April 16, 2020), available at: http://www.monitoringanalytics.com/reports/Reports/2020/IMM_Potential_Impacts_of_the_Creation_of_Maryland_FRRs_20200416.pdf (“IMM Maryland FRR Analysis”); Monitoring Analytics, Potential Impacts of the Creation of a ComEd FRR, (December 18, 2019), available at http://www.monitoringanalytics.com/reports/Reports/2019/IMM_Potential_Impacts_of_the_Creation_of_a_ComEd_FRR_20191218.pdf (“IMM ComEd FRR Analysis”); Monitoring Analytics, Potential Impacts of the Creation of New Jersey FRRs, (May 13, 2020), available at: http://www.monitoringanalytics.com/reports/Reports/2020/IMM_Potential_Impacts_of_the_Creation_of_New_Jersey_FRRs_20200513.pdf (“IMM NJ FRR Analysis”); and, Monitoring Analytics, Potential Impacts of the Creation of Ohio FRRs, (July 17, 2020), http://www.monitoringanalytics.com/reports/Reports/2020/IMM_Potential_Impacts_of_the_Creation_of%20Ohio_FRRs_20200717.pdf (“IMM Ohio FRR Analysis”).

investment that is sent to all resources in the RTO and this signal works in tandem with the prices set in the energy and ancillary services markets. While there are certainly ways in which those markets can be improved, there are no reasonably practicable enhancements that would allow them to replace the capacity market as the primary driver of investment in regions like PJM, NYISO, and ISO-NE.³⁶

To be clear, while competitive suppliers have legitimate rights to an opportunity to recover of, and on, their investments that cannot lawfully be disregarded, the impact of state subsidized resources on capacity market price signals should be a matter of concern to all stakeholders. The trend of certain states to utilize out-of-market contracts to subsidize specific preferred resources seems to be leading down a thorny road toward re-regulation of generation, which poses a vast set of problems for all concerned.³⁷

Before implementation of PJM's RPM in 2007, PJM operated using a short-term capacity model. It was characterized by low prices and significant investor risk which failed to encourage sufficient new investment in the right places to meet future energy supply needs.³⁸ As PJM has pointed out, areas of its footprint were facing the prospect of not having enough resources to serve customers in the future. Although PJM as a

³⁶ Pre-Conference Statement of ISO New England, Inc., p. 2, "Most significantly, however, ISO-NE does not believe that the energy and ancillary services markets can produce anywhere near the level of revenue necessary to achieve resource investment consistent with the 1-in-10 standard that FCM currently meets. In fact, by our calculations, to achieve the required level of resource adequacy, the energy and ancillary services markets in New England would have to be designed based on a Value of Lost Load of approximately \$180,000/MWh – or 20 times higher than the \$9,000/MWh energy price posted in ERCOT during the recent storm." (citations omitted.)

³⁷ See e.g., Amicus Brief of the Independent Market Monitor for PJM in Support of Plaintiffs-Appellants, *Coalition for Competitive Electricity et al v. Zibelman*, U.S. Court of Appeals for the Second Circuit, Docket Nos. 17-2654, 2017, p. 16.

³⁸ PJM Interconnection, *PJM Capacity Market: Promoting Future Reliability*, (2020). Available at: <https://www.pjm.com/-/media/about-pjm/newsroom/fact-sheets/pjm-capacity-market-promoting-future-reliability-fact-sheet.ashx>.

whole had enough generating capacity, the pace of generation development had slowed because though electricity demand was rising, revenues were low and there was not enough financial incentive and too much uncertainty to attract investors.³⁹ Low prices had also forced premature retirement of much needed generation in certain areas, which exacerbated this issue.

RPM was created and implemented in response to these issues, providing compensation that stimulates investment and lessens investor risk. These elements are particularly critical for independent power producers, who depend on market revenues to operate their existing resources and construct new generating capacity. As PJM IMM Dr. Joseph Bowring noted in 2013, “[w]hen RPM was introduced in 2007, most incumbent utilities’ generation assets in PJM had been deregulated or divested. As a result, the owners of capacity, including merchant generators, rely on PJM markets for the revenue to cover the full costs of their generating capacity.”⁴⁰

RPM has indisputably delivered on its mission to send clearer and stronger investment signals to investors.⁴¹ In order to spur this kind of investment, capacity markets are structured to provide sufficient revenues beyond what is available through energy and ancillary services to retain and attract an adequate level of resources to meet desired levels of reliability. This is often referred to as the “missing money.” NYISO CEO Richard Dewey explains,

³⁹ *Id.*

⁴⁰ Bowring, Joseph, *Capacity Markets in PJM*, 2013, p. 55.

⁴¹ Statement of PJM Interconnection, Technical Conference on Resource Adequacy in the Evolving Electricity Sector, Docket No. AD21-10, March 23, 2021, p. 3. “Since its inception in 2007, more than 33,000 MW of coal generation has retired in PJM. At the same time, the capacity market sent an investment signal for the entry into the region of 40,000 MW of new natural gas generation resources in total; 13,700 MW of wind and solar; 10,000 MW of demand response; and 2,800 MW of energy efficiency resources.”

[T]he “missing money” is dependent on the level of Energy and Ancillary Service prices and the degree of reliability desired. Once the level of reliability is set, the amount of “missing money” revenue needed from the Capacity market could be reduced by enhancing Energy and Ancillary Services market signals.⁴²

Mr. Dewey further provides that “[c]apacity revenues may be viewed as a predictable ‘call option’ on future energy delivery which keeps price signals in real time at reasonable levels while being aligned with system reliability needs.”⁴³ Accordingly, capacity markets and their associated revenues have been critical in spurring new investment in an efficient, cost-effective manner since their inception.

D. Importance of Market Power Mitigation

Regardless of the capacity construct in place, any market, procurement, or contracting process is made up of buyers and sellers. The Commission has the authority and the obligation to ensure that wholesale market integrity is maintained by preventing market distortion on both sides of that equation. On the supply side, there is extensive market power mitigation applied through numerous mechanisms including must offer obligations, pivotal supplier tests, and defined offer caps for bidding into the capacity auctions, in order to ensure that suppliers are submitting competitive offers reflective of their costs and risks. A concomitant mitigation regime must be applied to the buyer side to prevent non-competitive, below-cost offers from distorting market outcomes. As the Commission has explained, “The goal of mitigation is to ensure competitive offers from all participants, not to target a higher or lower price.”⁴⁴ Thus, mitigation applied to both buyers and sellers is required to protect against artificially

⁴² Comments of NYISO CEO Richard J. Dewey on behalf of the New York Independent System Operator, Inc., Modernizing Electricity Market Design, Docket No. AD21-10, March 19, 2021, p. 8.

⁴³ *Id.*

⁴⁴ *N.Y. Indep. Sys. Operator, Inc.*, 150 FERC ¶ 61,208 (2015) P 18.

influenced prices and ensure the long-term market stability that encourages necessary investment.

Addressing offer-floor mitigation, the Commission has found that a market which allows uneconomic entry that offers at low or zero bids and produces artificially low capacity prices in the short term cannot be just and reasonable. This, in turn, prevents the market from sending accurate price signals, thereby inhibiting investment, driving up prices, and threatening reliability in the long term.⁴⁵ Simply, if capacity prices are suppressed, the critical objective of providing revenue adequacy may be compromised, and may affect the economic viability of certain suppliers necessary for reliability. The Commission's statutory obligation is to ensure prices are just and reasonable required it to prevent such outcomes. For this reason, the Commission has approved the MOPR mechanism in PJM⁴⁶ and New York,⁴⁷ and in fact required it in New England.⁴⁸

The Commission's statutory and constitutional *obligations* do not change based on an evolving resource mix, an expansion of state programs which support preferred

⁴⁵ *N.Y. Indep. Sys. Operator, Inc.*, 122 FERC ¶ 61,211, at P 92 (2008), PP 102-103.

⁴⁶ *See PJM Interconnection, L.L.C.*, 117 FERC ¶ 61,331 at P 103 (2006) (accepting the MOPR to address concerns that "net buyers might have an incentive to depress market clearing prices by offering some self-supply at less than a competitive level"), *on reh'g*, 119 FERC ¶ 61,318, *reh'g denied*, 121 FERC ¶ 61,173 (2007); *PJM Interconnection, L.L.C.*, 135 FERC ¶ 61,022 at P 139 ("ER11-2875 Order") (accepting modifications to the MOPR in light of "mounting evidence of risk from what was previously only a theoretical weakness in the MOPR rules that could allow uneconomic entry has caused us to reexamine our acceptance of the existing state exemption"), *on reh'g*, 137 FERC ¶ 61,145 (2011) ("ER11-2875 Rehearing Order"), *reh'g denied*, 138 FERC ¶ 61,160 (2012), *aff'd sub nom. New Jersey Bd. of Pub. Utils. v. FERC*, 744 F.3d 74 (3rd Cir. 2014) ("*New Jersey BPU*").

⁴⁷ *New York Indep. Sys. Operator, Inc.*, 122 FERC ¶ 61,211 at PP 100-06, *on reh'g*, 124 FERC ¶ 61,301 (2008).

⁴⁸ *ISO New England, Inc.*, 135 FERC ¶ 61,029 at P 19 (2011) ("ER10-787 Paper Hearing Order") ("[W]e will require ISO-NE to work with its stakeholders to develop an offer-floor mitigation construct akin to those in PJM and NYISO."), *on reh'g*, 138 FERC ¶ 61,027 at P 135 (2012) (discussing its "directive[] to ISO-NE and its stakeholders . . . to develop a mitigation mechanism similar to the MOPR mechanism used in PJM"), *aff'd sub nom. New England Power Generators, Inc. v. FERC*, 757 F.3d 283 (D.C. Cir. 2014) ("*NEPGA*"). *See also, e.g., ISO New England, Inc.*, 142 FERC ¶ 61,107 at P 64 (2013) ("[A] resource should be subject to an offer floor until it has demonstrated that it is needed by the market."), *on reh'g*, 151 FERC ¶ 61,055 (2015).

resources outside of the market, or the pursuit by states to address certain market externalities which have the effect of depressing capacity market prices – price signals which the majority of resources require for investment and operational certainty. At the same time, however, EPSC recognizes tensions between state and federal authority and policy may mean that PJM’s Expanded MOPR is not a sustainable mitigation mechanism to address buyer-side market power concerns. If the MOPR is going to be narrowed or eliminated, it is incumbent on the Commission to ensure that an appropriate and effective mitigation mechanism is implemented in its place to protect the market. Hence, the need to ensure that market power is appropriately mitigated is one of PJM’s six principles governing any changes to its capacity market.⁴⁹ Additionally, the Organization of PJM States, Inc. (“OPSI”) highlighted the importance of appropriate mitigation as one of its four core principals guiding the discussion of the evolution of PJM’s markets.⁵⁰ In New York, NYISO has established a Capacity Mitigation Review process “to make balanced changes to its Capacity market that will preserve competitive price signals and sustain reliability while recognizing the impacts of the CLCPA and related state clean-energy initiatives.”⁵¹ Again, while reform to the current buyer-side mitigation is contemplated, the goal must be to do so in a manner that appropriately protects the competitive markets.

⁴⁹ Statement of PJM, Technical Conference on Resource Adequacy in the Evolving Electricity Sector, p. 2

⁵⁰ Letter from Organization of PJM States, Inc. to the PJM Board of Governors, (electronically delivered January 8, 2021), p. 2., “Effective and appropriate market power mitigation is imperative for a properly functioning market design, and for PJM-administered markets generally.”

⁵¹ Dewey testimony, p. 3, referencing the *Comprehensive Mitigation Review Project*, October 27, 2020, available [here](#). Also see Dewey testimony, p. 7, “The BSM Rules were initially established for a different resource mix than is contemplated by the CLCPA and by current New York State resource siting policies. The CMR project seeks to *enhance the BSM Rules, where appropriate*, to address the inherent differences between conventional power generation and the innovative new technologies that New York State favors.” (Emphasis added.)

Notwithstanding suggestions in the Notice to the contrary, changes in the resource mix and the scope of state actions to support specific do not and cannot undermine the need for effective mitigation. The Commission has found again and again that uneconomic entry which produces low capacity prices in the short-term immediately harms generators through those unjustly determined prices and ultimately harms consumers by depressing capacity prices below Net CONE, preventing the market from sending accurate price signals, thereby inhibiting investment and threatening reliability.⁵²

III. CONCLUSION

WHEREFORE, as the Commission considers its next steps on MOPR, EPSCA respectfully urges the Commission to remain committed to capacity markets as the cost-effective, market-based tool to achieve resource adequacy and reliability across a multi-state, regional footprint. There are, and will always be, tweaks to capacity market design to ensure those markets deliver a reliable power supply at the lowest cost. However, there are few, if any, options that offer greater efficiency *and* political feasibility for a multi-state region.

While concerns regarding an Expanded MOPR in PJM merit consideration and may lead to reforms, it is critical that ISOs/RTOs retain mitigation tools to address price

⁵² See, e.g., *ISO New England Inc. & New England Power Pool Participants Comm*, 131 FERC ¶ 61,065 (2010) (explaining that the purpose of the analogous mechanism in the New England market is “to discourage buyers that have the incentive and ability to suppress market clearing prices below a competitive level from doing so” in order “to ensure that the prices in capacity markets reflect the market cost of new entry when new entry is needed”); *New York Indep. Sys. Operator, Inc.*, 122 FERC ¶ 61,211 at P 100 (accepting a buyer market power mitigation mechanism “to prevent uneconomic entry that would reduce prices in the [] capacity market below just and reasonable levels”), *on reh’g & compliance*, 124 FERC ¶ 61,301 (2008).

suppression. To ensure capacity markets continue to provide the necessary entry and exit signals for merchant investment, they must appropriately balance the mitigation of buyer-side market power and seller-side market power; the Commission cannot strengthen one while eliminating the other.

Capacity is not an ancillary service; it is a unique and necessary product integrated with the energy and ancillary services markets which together maintain regional resource adequacy and reliability.

Respectfully submitted,

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